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ABSTRACT

The National Occupational Information Coordinating Committee/State Occupational Information Coordinating Committees (NOICC/SOICC) Network sponsors numerous occupational information programs and systems, including career information delivery systems (CIDS). CIDS provide useful national, state, and local information for people who are exploring, planning, or making decisions about careers. CIDS integrate data from many federal and state agency programs designed to meet the needs of various groups, including upper elementary and middle school students, high school students, adults in transition, and retired persons. CIDS provide "fingertip access" to the world of work by helping users match their individual interests, skills, and abilities to potential education and employment opportunities. The use of CIDS programs can be described as a cycle in which users access occupational and education/training information that is then delivered to them via computer or other media. State CIDS now serve 7 million users at more than 18,000 sites annually. (Appended are the following:

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information about statewide delivery of career information; names/addresses of CIDS developers and state CIDS directors; information about the Association of Computer-Based Systems for Career Information; standards for computer-based CIDS; information about the National Career Development Association; description of NOICC/SOICC career development initiatives; and phone numbers of SOICC directors.) (MN)

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National Occupational Information Coordinating Committee

NOICC Occasional Paper 4

Career Information Delivery Systems: A Summary Status Report

Toward improving communication and coordination among developers and users of occupational, career, and labor market information

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March 1992

NOICC Occasional Paper 4

Career Information Delivery Systems: A Summary Status Report

Valorie Hopkins
Joyce Kinnison
Eleanor Morgenthau
Harvey Ollis

The NOICC/SOICC Network

The National Occupational Information Coordinating Committee (NOICC) promotes the development and use of occupational, career, and labor market information. It is a federal interagency committee, established by Congress in 1976. Its members represent ten agencies within the U.S. Departments of Labor, Education, Commerce, Agriculture, and Defense.

NOICC has two basic missions. One is to improve communication and coordination among developers and users of occupational and career information. The other is to help states meet the occupational information needs of two major constituencies: (1) planners and managers of vocational education and job training programs and (2) individuals making career decisions.

NOICC works with a network of State Occupational Information Coordinating Committees (SOICCs), also established by Congress in 1976. SOICC members represent state vocational education boards, vocational rehabilitation agencies, employment security agencies, job training coordinating councils, and economic development agencies. Many also include representatives from higher education and other state agencies.

The NOICC/SOICC Network supports a variety of occupational information programs and systems. Some provide data to help in planning vocational education and job training programs. Others offer information for individuals who are exploring occupational options and making career decisions.

Organizations and individuals undertaking special projects funded by the National Occupational Information Coordinating Committee are encouraged to express their professional judgments. The analysis, interpretation, and opinions expressed in this document, therefore, do not necessarily represent the official position or policy of NOICC members or their representatives, or the NOICC staff, and no official endorsement should be inferred.

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A special feature of the project was the involvement of the Association of Computer-Based Systems for Career Information (ACSCI). NOICC and the project team have worked directly with ACSCI, and this alliance helped improve the data in the reports. Special recognition goes to Sumyyah Bilal, ACSCI President, and Bob Lofft, ACSCI Clearinghouse Coordinator.

A Project Review Panel was established to provide comments by personnel working on the development, delivery, and use of career information. They deserve special recognition and appreciation for their assistance. Members of the Project Review Panel and the groups they represent are Roger Lambert, Wisconsin CIS, CIDS Developer; Carol Kososki, South Carolina SOICC, CIDS Operator; Gail Hutchins Brand, Saratoga Co. Correctional Facility, New York, Local CIDS User; Sumyyah Bilal, ACSCI, Professional Association; and James Sampson and Robert Reardon, Florida State University, Researcher/Counselor Educator. NOICC staff also participated in the review process.

Thanks are also due to the CIDS operators and developers who provided information about their systems. Without their help, this report could not have been written.

A working draft of this paper was presented at the ACSCI Conference on December 4, 1991, in Los Angeles, California. NOICC wishes to thank the many individuals who reviewed that draft and provided comments.

The following report was edited by Roberta Kaplan and published by the Oklahoma Department of Vocational and Technical Education, Stillwater, Oklahoma, for the NOICC Training Support Center. In particular, NOICC wishes to thank Bob Davis, Candy Haun, Rose Primeaux, and Lois Tweeten for their work on the new design for this series and LaMecia Stiles-Burden for coordinating its publication.

Foreword

Career information delivery systems—CIDS—are key information resources used by millions of Americans each year. They help young people begin to figure out what they can and want to do when they grow up. They help adults explore new job, career, and training options. They offer a wealth of information to use in the career development and counseling process, serving all kinds of people with different questions, interests, and needs.

Since 1979, NOICC has fostered the development of these systems, monitoring their progress and supporting efforts to improve and enhance them. We did so in response to our legislative mandate, but more so out of the conviction that all Americans need access to current, reliable information about the world of work. CIDS offer an efficient and economical means of providing that access.

Last year, NOICC funded an effort to report on the CIDS story nationally—who uses these systems and where they do so, what information they can get and how they get it. Our partner in this endeavor was the Association of Computer-Based Systems for Career Information (ACSCI), whose participation was vital. This report summarizes what we learned. It provides an up-to-date profile of CIDS today.

The report focuses on what the systems are and do—not on how they are managed or financed. Because we have worked with these systems since their infancy, we have witnessed how far they have come—the problems they have solved, the challenges they still face. And we know, although this report did not ask about these issues, that for all their progress and promise, CIDS today are at risk. Federal and state funds to support them are severely limited. Faced with budget cuts, many local users—like school systems, social service agencies, and libraries—are forced to curtail their participation and financial support.

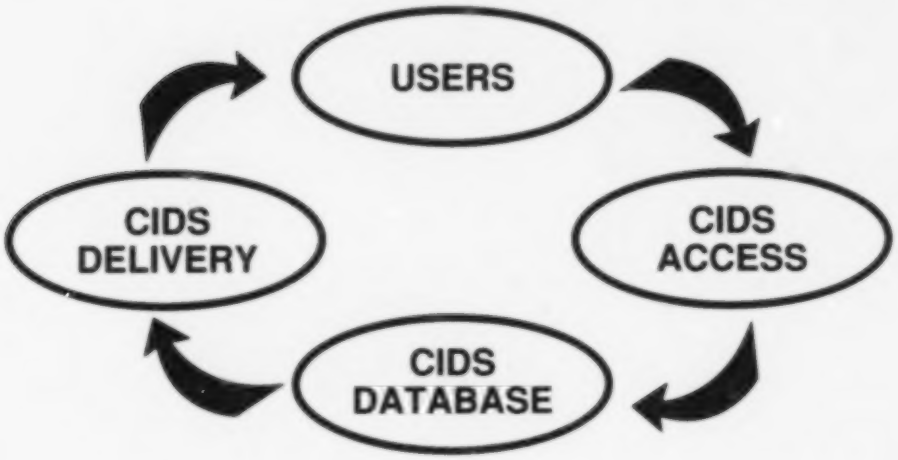
We hope this report will bring members of the NOICC/SOICC Network up to date on the status of these systems and increase awareness among other groups of the valuable resource they can provide for all our citizens. It is the fourth in our series of occasional papers. The series fosters the exchange of information about important innovations, activities, and issues concerning the development, delivery, and use of occupational, career, and labor market information.

For more than a decade, NOICC has provided a forum for data producers and users to exchange information and explore ideas of mutual concern. Our role as a coordinator gives us a unique opportunity to identify key issues and developments and to call attention to them through our programs and publications. We hope you will find this paper informative and useful.

Juliette N. Lester
Executive Director

The CIDS Cycle

State career information delivery programs serve 7 million users yearly at more than 18,500 sites nationally.



Career Information Delivery Systems: A Summary Status Report

Valorie Hopkins, Joyce Kinnison, Eleanor Morgenthau, and Harvey Ollis

CIDS Provide Answers to Many Career Questions

Career information delivery systems (CIDS) provide useful information for people who are exploring, planning, or making decisions about careers. CIDS contain national, state, and local information about occupations, educational and training institutions and programs, and related subjects. For example, they can tell you how many welders are employed in your area, their average wage, method of entry into the field, and available training programs.

Most of these systems are computer-based, but other media are also used to provide information. Tabloid newspapers and telephone hotlines, for example, can reach people in areas without access to computerized systems. Because the information is current, reliable, and easily accessible, CIDS are valuable tools for the career counseling process, serving both young people and adults.

Various CIDS computer programs have been developed over the last 20 years. Some were created by private companies; others, by universities or state agencies. States have adopted these systems, many times for a license fee, and developed state and local information files to use with them. The information is developed according to nationally recognized professional standards. This promotes comprehensiveness, timeliness, and local relevance of information in systems across the country.

Where does the information come from? Data from many federal and state agency programs are integrated in CIDS, creating a rich and extensive information base. Both producers and users of career information also participate in other aspects of CIDS operations. This interagency cooperation has many benefits, making systems more accessible to diverse users, more comprehensive in information, and more economical.

CIDS are cost-effective. They provide a wealth of career planning and decision-making information to individuals who need it. And they do so for about the price of a hamburger. The average annual cost per individual CIDS user nationwide is presently estimated to be only $1.79.

Where are CIDS located? They are available in diverse settings, wherever people would seek help with job, self, and career exploration and decision making. They are found in schools, public libraries, Job Service offices, vocational rehabilitation agencies, and even shopping centers.

Who uses these systems? All kinds of people, at different ages and stages of their lives. The kind of information they need also varies. CIDS are designed to help individuals in various circumstances and settings find the type of information they need, when they need it.

Upper Elementary and Middle School Students

Young children may be intrigued with the idea of being a firefighter, TV star, or pro football player when they grow up. Their choices are often limited, not by their imagination but by their lack of exposure to the vast world of work. Their horizons—and aspirations—may expand as they become aware of more career possibilities.

Upper elementary and middle school students are interested in the general characteristics of careers. They want to know what plumbers or pilots do and how much money they make, what training they need, and what special talents or skills make them successful. School counselors and teachers use CIDS to help children find out what adults—often starting with their parents—actually do when they go to work. The more children learn about work, the better their chances of making good career decisions as they grow up.

High School Students

High school students are already making decisions—about courses, extracurricular activities, outside jobs—that can affect their future. As graduation nears, the immediate choices may seem simple—get a job, join the armed services, go to college. But choosing wisely means thinking seriously about what they can and want to do with their lives.

Long before their senior year, students need to think about: What kind of career would be the right one for me? What are my chances for employment now and in the future? If I go to work after graduation, what can I do? How

much money can I expect to make? Should I further my education? If so, what programs would lead to a career I might like? What schools offer those programs, and what courses should I take to qualify for them? CIDS in high schools help students explore educational and career opportunities in relation to their interests, aptitudes, and values. They offer both information and assistance in constructive career planning.

Adults in Transition

Many adults face career transitions, either by choice or by necessity. Homemakers returning to the labor market need help in matching their interests and skills to career possibilities and job market requirements. Some adults are faced with plant and business closings that leave them without a job—or force them to find a new line of work. Others simply want to change jobs or careers. Whatever their reasons, they want to know: Are there other jobs where I can use my current skills? Are my skills transferable to other career areas? What careers have good prospects for the future? Will I be able to earn as much as I have or need? Will I have to move? Will I have to consider going back to school to upgrade my skills? If so, how much time will it take, and how much will it cost? CIDS located in employment and training agencies, public libraries, and Job Service offices help dislocated workers and other adults in transition find answers to their questions and make realistic career plans.

Retired Persons

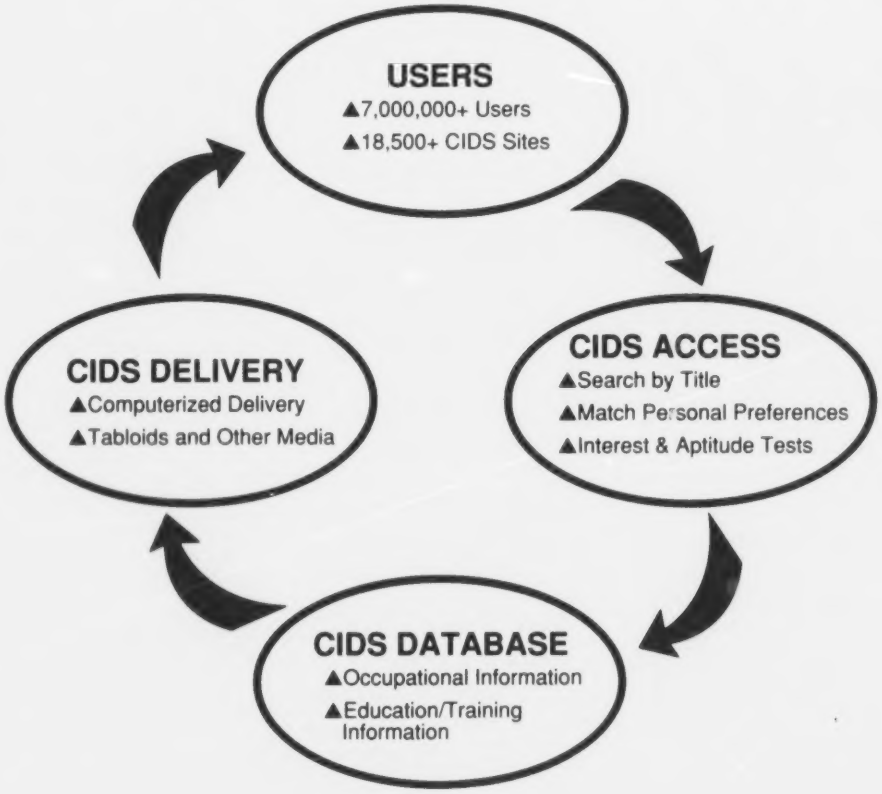
More and more retirees today are considering a second (or third or fourth) career, either out of necessity or personal desire. Depending on their circumstances, they may prefer working part time or as a volunteer. In any case, they want to know: What career options can I consider that use my skills? What career areas have the greatest potential for matching my interests? What work is available here—or somewhere else? Is starting my own business an option? Should I consider getting additional training? What are my education and training options? CIDS located in Job Service offices, public libraries, and community colleges can help retirees plan a productive second career.

Fingertip Access to the World of Work

Career information delivery systems provide "fingertip access" to the world of work. They help users match their individual interests, skills, and abilities to potential education and employment opportunities. Graphically, the use of CIDS programs can be described as a cycle with four stages, as presented in Exhibit 1.

EXHIBIT 1

The CIDS Cycle



The CIDS Cycle

CIDS Users—People with career questions, like those previously described, can get answers from CIDS. The systems provide the means, the access, to information for diverse users at many stages of self-exploration and career development.

CIDS Access—Every CIDS program makes it easy for users to find information to suit their particular needs. Convenient search strategies help connect the user and the world of work.

CIDS Database—CIDS programs describe hundreds of occupations and educational and training institutions and programs. The database is carefully linked so users can move easily from one area to another. Once an occupation is identified, for example, the user can quickly find out what training will be required and where it is offered.

CIDS Delivery—Users of computer-based CIDS are provided with information they can read on a computer screen or in a printed report. Reports are tailored to the individual. Other media used for delivering information include tabloid newspapers and newsletters, microfiche, needlesort plus books, telephone hotlines, and interactive videos.

CIDS Today: A Brief Look

In 1991, NOICC initiated an effort to examine the current status of career information delivery systems in the United States. Its purpose was to describe the CIDS story nationally—who uses these systems, what the systems contain, and how users obtain information from them. A related reason for the project was to establish a baseline of information about CIDS for use by researchers, counselor educators, and others interested in the provision and use of career information.

The Association of Computer-Based Systems for Career Information (ACSCI) cooperated with NOICC on the project, and data from the ASCSI and NOICC/SOICC Network were used in developing this status report. More information on each group is provided in Appendices 4 and 6 respectively.

This report summarizes the data assembled in the project. It presents an overview of CIDS today, including their uses, users, locations, access strategies, contents, and delivery. This information is organized according to the four components of the CIDS cycle, starting with CIDS users. The report also includes a section on training and support. It concludes with a description of standards and guidelines used in developing and managing the systems.

CIDS Users and Sites

Career information delivery systems are used as information resources for career and educational counseling. Originally, they were developed for schools. Today the majority of sites are located in schools and colleges. However, the numbers of sites in state Job Service offices, employment and training agencies, and vocational rehabilitation service offices are growing, thereby making CIDS more accessible to adults.

CIDS User Sites

A CIDS user site is a facility in which the system is actually in use. For example, a community college is counted as one user site, even if it has CIDS available in several different offices on campus. During 1990-91, CIDS were reported to be operating in 18,959 sites. Exhibit 2 shows the number and the percentage distribution by type of site. Kindergarten through 12th-grade (K-12) school settings account for about two-thirds (12,535) of all user sites. High schools are the most frequent site. Postsecondary education is another major type of setting, with technical schools, community colleges, and colleges and universities each accounting for more than 400 CIDS sites nationally. Employment and training agencies are the third major type of user site, with Job Training Partnership Act programs, vocational rehabilitation, and Job Service offices each accounting for more than 600 CIDS sites nationally. Appendix 1 contains the total number of CIDS user sites in each state.

EXHIBIT 2

NUMBER OF CIDS SITES BY TYPE 1990-91* (50 States)		
Type of CIDS Site	**# of Sites**	**% of All Sites**
K-12 EDUCATION (12,535)		66.2
- Senior high school	8,286	43.8
- Junior high/middle school	3,020	16.0
- Elementary schools	1,229	6.5
POSTSECONDARY EDUCATION (1,756)		9.3
- Vocational/technical schools	651	3.5
- Two-year community/junior colleges	600	3.2
- Four-year colleges/universities	464	2.5
- Private vocational schools	41	.3
EMPLOYMENT AND TRAINING (2,320)		12.3
- Employment and training offices	713	3.8
- Vocational rehabilitation offices	668	3.6
- State Job Service offices	624	3.3
- Counseling offices	315	1.7
OTHER (2,348)		12.4
- Public libraries	545	2.9
- Correctional facilities	256	1.4
- Public businesses	68	.4
- Other	1,479	7.9
TOTAL	18,959	100.0

"Other" CIDS user sites include those reported in adult education programs, youth services bureaus, Native American agencies, state homes, school-to-work transition centers, single parent programs, state welfare programs, military schools and bases, hospitals, and extension agencies.

*Data on this and subsequent tables are based on the 1990-91 SOICC Directory and ACSCI survey data for the same period. The number in parentheses following the title of this and other exhibits refers to the total number of states reporting on the topics in the table.

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CIDS Users

Career development is a lifelong process, with a series of transitions that can result from both personal growth and environmental changes. Consequently, people need career information for decision making and planning at various times in their lives. As noted earlier, CIDS are valuable tools that can help people in diverse circumstances. Traditionally the largest numbers of users have been in educational settings. However, several states noted that the number of people using CIDS in agencies and institutions that typically serve adults has been increasing over the past five years.

CIDS user information reflects the number of people who actually obtain information from a system. Among the 33 states that reported the number of individual users during 1990-91, there were 4.6 million users. If the ratio of users per site is applied to all states, state systems now serve more than 7 million users per year. Exhibit 3 shows the number and percentage of CIDS users in the 33 reporting states.

EXHIBIT 3

NUMBER OF CIDS USERS (33 States)	
Type of CIDS Site	**Number of Users**
K-12 EDUCATION (2,735,068 Users)	
- Senior high schools	1,801,635
- Junior high/middle schools	745,232
- Elementary schools	188,201
POSTSECONDARY EDUCATION (474,114 Users)	
- Vocational/technical schools	129,472
- Two-year community/junior colleges	184,354
- Four-year colleges/universities	160,288
EMPLOYMENT AND TRAINING (260,342 Users)	
- Employment and training agencies	53,057
- Vocational rehabilitation offices	56,348
- State Job Service offices	133,507
- Counseling offices	17,430
OTHER (1,133,068 Users)	
- Public libraries	58,318
- Correctional facilities	26,799
- Public businesses	3,252
- Other	46,359
- Users not reported by type of site	998,340
TOTAL	4,602,592

Three states (California, Maine, and New Jersey) did not break out CIDS user counts by type. This accounts for the relatively large figure (998,340) of "other" users.

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CIDS Access

CIDS users range from elementary students to displaced workers, from college students to retirees. Each of these users has different questions, preferences, and needs. CIDS accommodate these differences, enabling users to relate their preferences to the occupational and training information in the CIDS database. Three major access options are available to users: (1) the direct search, (2) the structured search, and (3) standardized tests.

Direct Search

A direct search is for users who know which occupation, training program, or school they wish to explore. Users find its name in an index of titles in the system. Then, using a simple process, they ask the computer to provide information on that title. The description they have requested appears on the computer screen or in a printed report.

All CIDS have a direct search option and printed indices of titles. Some also feature an automated search. In these cases, users conduct a "key word" search by entering all or part of the desired title and selecting the appropriate title from a computer-generated list of matching system titles.

Structured Search

Each CIDS provides an internal "structured search" that creates a profile of the particular user. In this process, users specify their preferences concerning work-related items such as working conditions, education level, salary, or aptitudes. Some systems also ask users to rank their priorities among these preferences. The system builds a list of occupations whose characteristics match the user's profile. The user can then ask for information about occupations on the list. Many systems also have a "why not" feature that allows users to find out why a particular occupation did not match their profile. This can provide a useful "reality check" for idealized or romanticized career goals. Exhibit 4 displays the search variables for occupations used in CIDS structured searches.

EXHIBIT 4

CIDS OCCUPATIONAL SEARCH VARIABLES (50 States)	
Search Variable	**Number of States**
Environmental conditions *	46
Interests *	46
Education level	46
Physical demands *	45
Salary	44
Aptitudes *	42
Worker functions (data,people,things) *	40
Temperaments *	39
Career clusters	39
Related military training	36
School subjects	33
Areas of work	29
Community type	29
Specific vocational preparation *	28
Related apprenticeship training	27
Lifestyle/work schedule	25
General education development *	25

In the design of their occupational search component, many CIDS use the U.S. Department of Labor's Dictionary of Occupational Titles (DOT). The DOT is the primary data source for the eight starred (*) variables listed in Exhibit 4. More specific information on the DOT is available in the ACSCI report "Use of the DOT by Career Information Delivery Systems" (see Appendix 4).

Standardized Tests

Standardized tests, such as aptitude tests and interest surveys, are used in conjunction with the CIDS structured search by a number of states. Aptitude test scores may be used to augment a CIDS structured search by replacing (when possible) less accurate self-estimates of aptitude. Standardized tests help predict interests and aptitudes related to specific occupational titles.

A limitation of using standardized tests in a CIDS is that administering them requires additional time, resources, and trained counseling personnel to interpret results. However, schools and other sites that currently administer such tests can make more effective use of the scores by connecting them to CIDS programs. Both standardized tests and individual preferences, as identified in CIDS structured searches, are useful in career planning and development. Exhibit 5 lists standardized tests that have been related to CIDS and the number of state systems that utilize them.

EXHIBIT 5

STANDARDIZED TESTS IN CIDS (50 States)	
Standardized Test	**Number of States**
Holland Self-Directed Search	31
General Aptitude Test Battery	27
Armed Services Vocational Aptitude Battery	24
Strong-Campbell Interest Inventory	22
Ohio Vocational Interest Survey	9
Kuder General Interest Survey	7
Differential Aptitude Test	3

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CIDS Databases

CIDS search options provide users with lists of occupations or schools to explore. These titles are the key to using the CIDS database. State CIDS contain virtually thousands of pages of information on occupations, schools, and training programs. While there is variation between systems, states provide similar types of information. To be of maximum benefit to a person using the system, the information must be comprehensive, accurate, and locally relevant. It also must serve a practical purpose for the user. To ensure accuracy and comprehensiveness, most CIDS follow written information development standards. Such standards are discussed in the last section of this report. ACSCI standards for CIDS are presented in Appendix 4.

The CIDS database is compiled from available national and state data sources. In many states, the departments of labor and education work cooperatively with CIDS staff to provide the data on employment and education. In data development, as in their operation and delivery, CIDS are the product of interagency cooperation.

The information in a CIDS, as well as the level at which it is presented, must be appropriate for its users. For example, since users need extensive information about occupations, a large number of systems describe occupational duties, requirements, and economic information at both the national and state levels. Information on two- and four-year colleges is routinely available at the state level, and often nationally. Vocational, technical, and proprietary schools are included more frequently at the state level. This is because their programs serve local populations, and the people who ordinarily attend these schools are not prepared to travel far from home. Military training programs are available nationally, and CIDS reflect this. Other information, such as job bank and employer visit files, are developed for and included in CIDS as the result of a specific need identified within a state.

Exhibit 6 displays the information files reported in state CIDS within four broad areas: occupations, educational and training institutions, education and training programs, and other information.

EXHIBIT 6

CIDS DATABASE (50 States)	
File	**# of States**
OCCUPATIONS	
Description (duties, settings, work conditions)	44
Requirements (entry, personal)	47
Economic characteristics (employment, outlook, earnings)	47
EDUCATIONAL AND TRAINING INSTITUTIONS	
Four-year colleges and universities	45
Community colleges and technical institutes	43
Graduate schools	41
Vocational/technical schools	39
Proprietary schools	38
EDUCATION AND TRAINING PROGRAMS	
Postsecondary programs	44
Military programs	43
Apprenticeship programs	37
School subjects	36
OTHER INFORMATION	
Employer	18
Bibliography	14
Job bank/placement	11
State planner	7
Economic development	6
Employer visit	4

Educational Information

CIDS programs contain detailed state education and training information. Exhibit 6 lists the major files and information topics covered. One dimension of educational information deals with postsecondary programs. Most CIDS have program files describing the purpose of the program (such as accounting or welding), what courses normally comprise the program, and what school subjects are helpful in preparing to enter this program. The description also lists the schools that offer the program.

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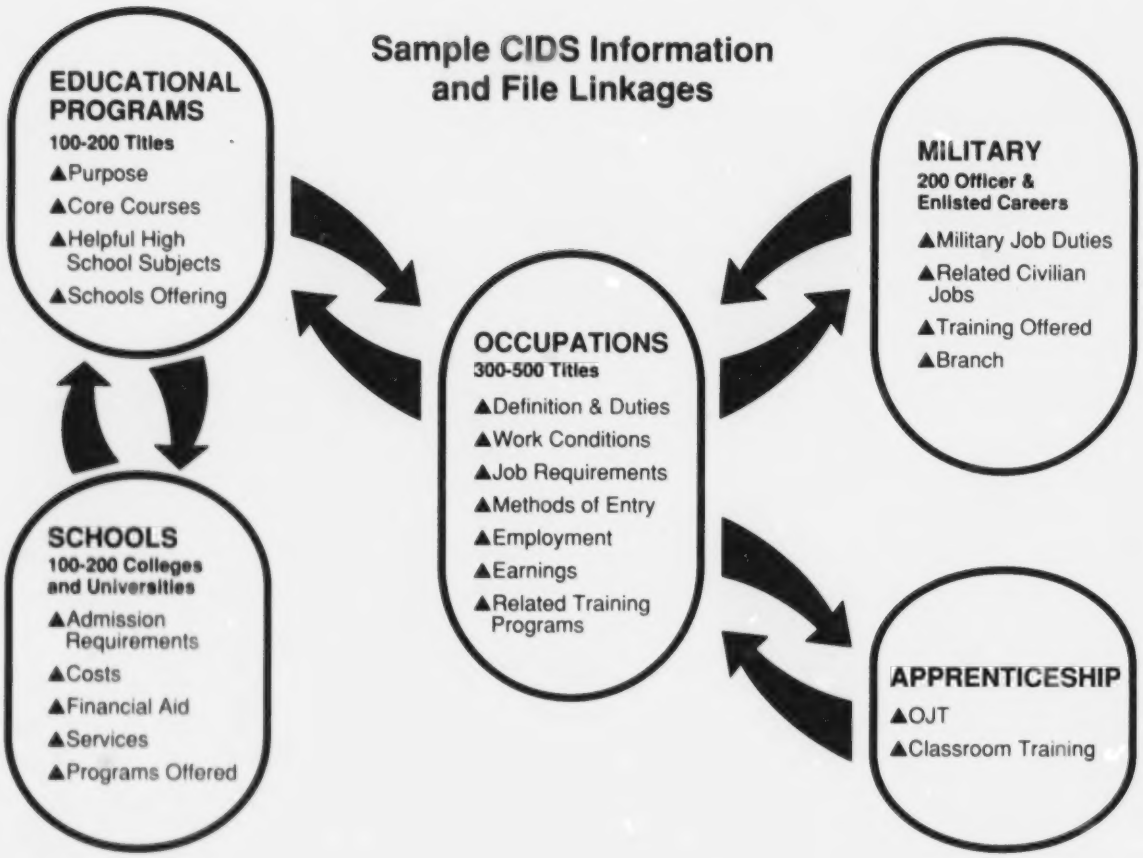
School information in CIDS includes a variety of topics of interest to prospective students: admission requirements, costs, financial aid and other services, and the programs offered at the school. School information is usually organized by type of institution. Exhibit 6 lists the school files reported by states.

Exhibit 7 lists the topics frequently contained in CIDS files and graphically depicts how these files are linked within the system. Users can obtain information directly from any of the files. In addition, the CIDS programs interrelate and integrate information from multiple files. This enables users to get information related to an item of interest quickly and easily. For example, suppose Jane Doe is thinking of becoming a medical records technician. Using a CIDS, she can quickly find out that most employers prefer to hire graduates of a two-year associate degree program. She can then find the name of the related program, what courses it includes, and what schools in her state offer it. Next, she can obtain information on admissions requirements, costs, and services available at those schools. The information base in CIDS programs is structured to help provide users a comprehensive picture of career options.

EXHIBIT 7


Sample CIDS Information and File Linkages
EDUCATIONAL PROGRAMS
100-200 Titles
▲Purpose
▲Core Courses
▲Helpful High School Subjects
▲Schools Offering
SCHOOLS
100-200 Colleges and Universities
▲Admission Requirements
▲Costs
▲Financial Aid
▲Services
▲Programs Offered
OCCUPATIONS
300-500 Titles
▲Definition & Duties
▲Work Conditions
▲Job Requirements
▲Methods of Entry
▲Employment
▲Earnings
▲Related Training Programs
MILITARY
200 Officer & Enlisted Careers
▲Military Job Duties
▲Related Civilian Jobs
▲Training Offered
▲Branch
APPRENTICESHIP
▲OJT
▲Classroom Training

Occupational Files

The occupational file is the heart of the CIDS database. Exhibit 8 lists, in order of frequency of occurrence, information items that are included in CIDS occupational descriptions. They are grouped in four broad areas: definition and duties, requirements, economic characteristics, and other items.

A variety of national and state data sources are used by states in developing occupational files. Two key resources include the *Occupational Outlook Handbook*, published by the Bureau of Labor Statistics, and employment and outlook data produced by the labor market information offices of state employment security agencies.

EXHIBIT 8

TOPICS IN CIDS OCCUPATIONAL FILE (46 States)		
Information Topic	**Number of States**	**% of States**
DESCRIPTION		
Occupational definition/duties	45	98
Work setting, hours	38	83
Physical activities	34	74
Environmental conditions	29	63
Tools & materials	7	15
REQUIREMENTS		
Education/training requirements	44	96
Special requirements	38	83
Aptitudes	33	72
Temperaments	33	72
Education/training programs	32	70
Hiring practices/entry methods	22	48
Physical demands	18	39
Interests	18	39
Skills/knowledge required	16	35
ECONOMIC CHARACTERISTICS		
Wages, salary	45	98
Employment outlook	45	98
Employers	36	78
Employment size	32	70
Advancement opportunities	7	15
OTHER		
Reference resources	39	85
Related occupations	37	80
Military references	25	54
Career fields	12	26
Holland types	11	24

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CIDS Delivery

CIDS databases are developed and organized for one specific purpose—to deliver information to the people who need it for career exploration, planning, and decision making. Many states have implemented CIDS that are produced and provided by third-party CIDS developers (listed in Appendix 2); some states have developed their own unique system. The method of CIDS delivery depends on the system the state uses and the resources available within the state. Although some states still deliver their CIDS using mainframe computers, the delivery media for most state systems are microcomputers or microcomputers in combination with other media.

The delivery media used by state CIDS to disseminate career information to their users are listed in Exhibit 9, with the number of sites served by each type. It should be noted that some CIDS use a combination of delivery media. Appendix 1 shows delivery media used in each state.

EXHIBIT 9

CIDS DELIVERY MEDIA (50 States)		
Delivery Media	**Number of States**	**Number**
Full-system microcomputers	39	10,750 sites
Microcomputers with books or fiche	15	6,727 sites
Mainframe computers	14	2,307 sites
Newsletters	23	56,050 copies
Career tabloids	35	3,874,000 copies
Manual media (needlesort plus books)	15	6,138 sites
Dial-up hotlines	4	47,063 calls
Interactive videos	2	626 sites

Tabloid newspapers have become one of the most popular methods of disseminating career information. They are an economical means of reaching large numbers of people. They can also be used to help people who do not

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have access to computer-based systems. Some states distribute them to all ninth- and tenth-grade students in schools throughout the state; others have them delivered to homes as a special supplement to the daily newspaper. They give school teachers a wealth of material to use in their classrooms—and can be sent home to provide current and useful information to parents and other family members. Many states producing tabloids also distribute them to libraries and state Job Service offices.

Training and Support Materials

The use of comprehensive computer-based systems such as CIDS can be enhanced by training and supporting materials. Most systems make a major effort to provide adequate training and services to support CIDS users. Workshops on CIDS are provided frequently to counseling professionals and others who oversee the use of CIDS at user sites. The training describes new features, new data, and ideas on how to use the system with different groups of students or clients. In schools, for example, intensive training is offered at the beginning of the school year to staff who will be working with the system. Customized training also helps counselors in employment and training agencies use CIDS in developing individual client career plans.

There are 49 CIDS that provide general training to users, and 40 also provide customized training support for specialized programs. For example, training has been designed for programs in vocational rehabilitation, job training, Job Service, corrections, and economic development. Other efforts serve special populations, such as disabled veterans, displaced workers, or single parents. Some have focused on equity, welfare reform, or multicultural programs.

A total of 48 CIDS provide user manuals for their systems. Other support materials include guides, workbooks, handbooks, and worksheets for users. CIDS also have developed indices or master lists of database files, classroom infusion strategies or activities, manuals on system-specific topics, implementation handbooks, and system operating instructions, as well as brochures, posters, newsletters, slide tapes, and videotapes.

SOICCs are encouraged to include information on CIDS and other career information resources in workshops offered under the Improved Career Decision Making (ICDM) program and the National Career Development Guidelines, described in Appendix 6. This is another way of alerting counselors to the use of CIDS in the career development process.

CIDS Standards and Guidelines

CIDS programs have developed over the past 20 years to provide systematic computerized access to a wide range of occupational and educational information. During this period, interested practitioners have worked together in professional associations to identify model features that should be available to all CIDS users. These groups have addressed the issues of computerized information presentation, as well as the organization of state CIDS staff, information development, marketing and user training and support, delivery systems, evaluation, and finance.

ACSCI has developed 51 standards pertaining to the areas mentioned above. Given their importance to the operation of the CIDS programs described in this report, ACSCI's "Standards for Computer-Based Career Information Delivery Systems" are reprinted, in summary form, in Appendix 4.

Another professional association, the National Career Development Association (NCDA), has developed standards to help counselors evaluate career information resources. Separate sets of standards focus on three areas: computer software, video, and publications. Further information is included in Appendix 5.

Conclusion: A Resource for the Future?

State career information delivery systems now serve 7 million users annually, at more than 18,000 sites. The information they provide can help people who are exploring careers or making personal decisions about education, training, or employment. As this report indicates, CIDS can be used at many points in the career counseling and development process, serving individuals at different stages in life, including:

- school children
- high school students and young adults
- job seekers and career changers
- displaced workers
- veterans moving into civilian jobs
- persons with disabilities
- retired workers seeking a new job or career

Although CIDS were developed originally for secondary schools, they are now operating in a wide variety of institutions and agencies. A majority of the systems provide training and materials to support their use, including customized support for specialized programs. The media they use to deliver information also enable them to reach a broad spectrum of users.

CIDS contain a wealth of information, drawn from many different federal and state data sources. Computerized programs, designed primarily by third-party developers, provide convenient access strategies. They enable users to obtain information easily and efficiently. They can also help them match their personal preferences, aptitudes, and interests to potential educational and employment opportunities.

According to a recent Gallup poll (*National Survey of Working America*, NCDA, 1990), almost 65 percent of the adults surveyed said that if they had it to do again, they would get more information about potential career choices. CIDS offer current and future generations access to the kind of information they need for making career decisions. But will these systems continue to thrive? This status report does not address financial and administrative issues, but funding problems are evident. Federal and state resources to support CIDS are limited, and systems are concerned that local users will be forced to curtail their participation and financial support.

Recent studies suggest that "Throughout their lifetimes, our citizens will need access to career and occupational information and assistance in interpreting and applying it [to understand] the world of work and their role in it" (*Working in America*, NCDA, 1989, p. 61). CIDS offer professional counselors, and the citizens who seek their help, an important resource to use in meeting this need.

APPENDICES

1. Statewide Delivery of Career Information
2. CIDS Developers
3. State CIDS Directors and Telephone Numbers
4. Association of Computer-Based Systems for Career Information
5. National Career Development Association
6. NOICC/SOICC Career Development Initiatives

Appendix 1. Statewide Delivery of Career Information

State	Delivery Media Used				# of CIDS Sites	# of Career Tabloids
Alabama	m				535	200,000
Alaska		mc		p	158	102,000
American Samoa			f	p	13	
Arizona		mc			204	50,000
Arkansas		mc	f	p	609	50,000
California	m	mc			402	
Colorado	m	mc		p	164	160,000
Connecticut	m				90	65,000
Delaware	m				22	70,000
Dist. of Columbia	m	mc			28	
Florida	m	mc	f	p	875	275,000
Georgia		mc		p	360	100,000
Hawaii	m	mc		p	158	50,000
Idaho		mc		p	227	
Illinois		mc		p	573	
Indiana		mc			146	
Iowa		mc		p	27	38,000
Kansas		mc			268	20,000
Kentucky		mc			399	60,000
Louisiana		mc			59	55,000
Maine		mc			223	
Maryland		mc		p	214	
Michigan		mc	f		2469	450,000
Minnesota		mc		p	300	50,000
Mississippi		mc			61	
Missouri		mc	f		1741	230,000
Montana		mc		p	70	35,000
Nebraska		mc		p	216	80,000
Nevada		mc		p	151	40,000
New Hampshire						40,000
New Jersey	m				160	
New Mexico	m	mc			55	80,000
New York		mc			176	
North Carolina		mc		p	272	250,000
North Dakota		mc			99	62,000

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State	Delivery Media Used				# of CIDS Sites	# of Career Tabloids
Ohio	m	mc			1064	
Oklahoma		mc	f	p	512	20,000
Oregon		mc		p	426	150,000
Pennsylvania		mc			233	560,000
Puerto Rico		mc			78	3,000
Rhode Island		mc			37	
South Carolina	m	mc			390	
South Dakota		mc			315	
Tennessee		mc	f		462	60,000
Texas	m	mc			272	115,000
Utah	m	mc		p	177	60,000
Vermont		mc			42	74,000
Virginia		mc	f		2021	160,000
Washington		mc		p	434	
Wisconsin		mc		p	635	40,000
Wyoming		mc			134	20,000

Key: m - maintrame computer mc - microcomputer f - microfiche p - print

Note: Career information is available in virtually all states through a variety of public and commercial resources, including computer-based systems. Fifty states/territories that have state-based CIDS are listed in this table. California, Connecticut, and New York have several large computerized CIDS, both public and commercial, in operation, but the SOICC has not designated any as the official statewide CIDS. Six states/territories did not have a computer-based statewide system in operation as of June 1991: Guam, Massachusetts, New Hampshire, Northern Mariana Islands, West Virginia, and the Virgin Islands.

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Appendix 2. CIDS Developers

Many states have implemented CIDS that are developed and provided by third-party system developers. These developers provided information on their systems for this study. NOICC appreciates their assistance and plans to work cooperatively with them, ACSCI, and others in promoting the increased use of CIDS. Material about the following systems was received from their developers.

C-LECT
Software Division
Chronicle Guidance Publications, Inc.
Post Office Box 1190
Moravia, NY 13118
(315) 497-0330

Career Information System (CIS)
National Career Information System
1787 Agate Street
University of Oregon
Eugene, OR 97403-5314
(503) 346-3872

Careers! Kansas Careers
2323 Anderson
Manhattan, KS 66502
(913) 532-6540

Choices, Choices CT, & Choices Jr.
Careerware
STM Systems Corporation
810 Proctor Avenue
Industrial Park, Building #3
Ogdensburg, NY 13669
(800) 267-1544

COIN Career Guidance System and
COIN Micro Jr.
COIN Educational Products
3361 Executive Parkway, Suite 302
Toledo, OH 43606
(800) 274-8515

DISCOVER/VISIONS
American College Testing Program
Educational Services Division
Post Office Box 168
Iowa City, IA 52243
(319) 337-1000

Guidance Information System (GIS)
Riverside Publishing Company
A Houghton Mifflin Company
One Memorial Drive
Cambridge, MA 02142
(617) 262-3000

SIGI PLUS
Educational Testing Service
10 North Main Street
Yardley, PA 19067
800-257-7444

Descriptions of these systems are available from the developers.

Appendix 3. State CIDS Directors and Telephone Numbers

The following persons can answer questions about the CIDS program in their state. They have information on what the system contains, where it is used, and how to obtain it.

FAX #	STATE	DIRECTOR	TELEPHONE #
	Alabama	Mary Louise Simms	(205) 242-2990
(907) 465-3436	Alaska	Janet Smith	(907) 465-4685
	Arizona	Hugo Soll	(602) 542-3871
(501) 682-3713	Arkansas	C. Coy Cozart	(501) 682-3159
(415) 235-3898	California	M. Sumyyah Bilal	(415) 235-3883
(303) 837-1000, x2135	Colorado	Charles D. Beck	(303) 837-1000, x2136
(203) 287-8081	Connecticut	Gregory Dandio	(203) 288-1883
(302) 739-3092	Delaware	Thomas V. Soltys	(302) 739-4583
(202) 639-1765	Dist. of Columbia	Etta Williams	(202) 639-1090
(904) 487-3601	Florida	Glenn Thomas	(904) 488-0400
	Georgia	Les Janis	(404) 651-3100
(808) 586-8633	Hawaii	Lincoln T. Higa	(808) 546-8625
(208) 334-2365	Idaho	Charles R. Mollerup	(208) 334-3705
(217) 785-6184	Illinois	Ian Staggs	(217) 785-0789
(317) 232-1815	Indiana	Linda Piper	(317) 232-9528
(515) 242-4859	Iowa	Penelope Shenk (acting)	(515) 242-4890
(913) 532-7304	Kansas	Dennis Angle	(913) 532-6540
	Kentucky	Don Sullivan	(502) 564-4258 or 5331
(504) 342-5115	Louisiana	George Glass	(504) 342-5149
	Maine	Susan Brown	(207) 289-2331
(301) 333-5304	Maryland	Jasmin M. Duckett	(301) 333-5478
(517) 373-8776	Michigan	Joseph McGarvey	(517) 373-0815
(612) 296-3272	Minnesota	Terry Hamm	(612) 296-3653
(601) 949-2291	Mississippi	Liz Barnett	(601) 949-2002
(314) 751-7973	Missouri VIEW	James H. Grogan	(314) 921-4450
(314) 751-7973	Missouri CHOICES	Kay Raithel	(314) 751-3800
	Montana	Anne Woltinger	(406) 444-1444
(402) 472-5907	Nebraska	Fay G. Larson	(402) 472-2570
(702) 687-4119	Nevada	Valorie Hopkins	(702) 687-4377
(505) 277-7601	New Mexico	Elma N. Pineda	(505) 277-5137
(609) 292-6692	New Jersey	Laurence H. Seidel	(609) 292-2682
	No. Dakota	Dan R. Marrs	(701) 224-2733
	No. Carolina	Nancy H. MacCormac	(919) 733-6700
(614) 644-5702	Ohio	Karen Heath	(614) 644-6771
(405) 743-5142	Oklahoma	Kelly Battles	(405) 743-5159
(503) 346-5890	Oregon	Cheryl L. Buhl	(503) 346-2345
(717) 772-2168	Pennsylvania	Fritz J. Fichtner Jr.	(717) 787-8646 or 8647
(809) 724-6374	Puerto Rico	Evelyn Vargas	(809) 753-7110
	Rhode Island	Mildred Nichols	(401) 272-0830
(803) 737-2642	So. Carolina	Carol Koseski	(803) 737-2733
	So. Dakota	Phillip George	(605) 622-2314
(615) 974-2048	Tennessee	Walter A. Cameron	(615) 974-2574
(512) 463-2220	Texas	Joni Gilton	(512) 463-2399
(801) 533-2466	Utah	Tammy Stewart	(801) 536-7806 or 7861
(802) 828-4022	Vermont	Peter Hogg	(802) 828-4330
	Virginia	Carl McDaniels	(703) 231-7571
	Washington	Bert Palmer	(206) 754-8222
(608) 262-9197	Wisconsin	Roger Lambert	(608) 263-2704
(307) 766-4046	Wyoming	Kandace R. Bragg	(307) 766-6533

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Appendix 4. Association of Computer-Based Systems for Career Information (ACSCI)

ACSCI is a professional association that works to advance the services offered by operators of career information delivery systems. Formed in 1978, the association seeks to improve the quality of career information, the technology used for its delivery, and services to users. It does this by providing standards, professional development opportunities, and public information.

NOICC and ACSCI have worked cooperatively in the past to improve the development, delivery, and use of career information, and ACSCI has assisted NOICC in preparing data for this report. A list of ACSCI publications and contact information is shown below.

ACSCI membership is made up of organizations that operate computer-based systems for career information; of SOICCs; of other organizations, including developers and vendors of software, hardware, data, and products that expedite CIDS; and of researchers, administrators, counselors, and others interested in the field of career information.

Current CIDS-related publications available from the ACSCI Clearinghouse include the "1992 Directory of State-Based Career Information Delivery Systems" and "Use of the DOT by Career Information Delivery Systems."

ACSCI's "Standards for Computer-Based Career Information Delivery Systems" have been an important guide for the development and operation of state systems. They are reproduced, in summary form, on the following pages of this appendix.

For more information, write or call:

ACSCI Clearinghouse
1787 Agate Street
Eugene, OR 97403-5214
Telephone: 503/346-3996

STANDARDS FOR COMPUTER-BASED CAREER INFORMATION DELIVERY SYSTEMS

©1990 Association of Computer-Based Systems for Career Information

ACSCI Clearinghouse
Center for Advanced Technology in Education
1787 Agate Street
University of Oregon
Eugene, OR 97403-5214
(503) 346-3996 • Fax: (503) 346-5890

1. Organization

Standard 1.1 An organization should include key institutions representing both producers and users of career information.

Standard 1.2 A written charter, constitution, or bylaws should govern the policies of the system.

Standard 1.3 Management of the system should be within the system's defined service area.

Standard 1.4 The system should have a director or chief executive officer to coordinate and manage operations, to provide leadership to the organization, and to serve as a liaison to advisory bodies.

Standard 1.5 Professional staff members should be available to develop information, manage the delivery system, and assist user agencies in disseminating information to end-user clients.

Standard 1.6 Management should provide in-service training for existing and new staff.

2. Information Development

Career Information generally includes both occupational and education information. Whether a system develops occupational or education information, or both, it should operate a thorough information development program. A system delivering occupational information should meet Standards 2.1-2.7. A system delivering education information should meet Standards 2.7-2.13.

Standard 2.1 The number and types of occupations should cover 90% of total employment in the system's service area.

Standard 2.2 In developing topics of occupational information, any topic selected should have an empirical base.

Standard 2.3 A system should develop information which adequately describes the occupation. Occupational topics may include but not be limited to the following:

occupational code, duties, abilities, working conditions, equipment, earnings, employment outlook, training and education, and methods of entry.

Standard 2.4 Format, style, and language levels of the occupational description should be presented so that they are easily understood by a diverse population.

Standard 2.5 A system should use data that are current and valid.

Standard 2.6 All occupational information should be validated and updated at least yearly.

Standard 2.7 If an accessing strategy is used, an empirical relationship should exist between characteristics of the user and those of the occupations or education programs in the system.

Standard 2.8 The number and types of postsecondary educational programs should cover all significant instructional programs in the state or region served.

Standard 2.9 A system should develop information that adequately describes the basic characteristics of the program. Education topics may include but not be limited to the following: program objectives, specialties, degrees conferred, sample courses, and a comprehensive list of schools offering the program. Whenever possible, an occupational objective should be given for programs, but explicit occupational objectives should not be listed when there are none.

Standard 2.10 The number and types of postsecondary educational institutions should include only schools that are accredited or licensed by recognized organizations.

Standard 2.11 School information topics should include, but not be limited to, general information, admission, housing costs, financial aid, and student services. Other detailed information should be provided as available and applicable.

Standard 2.12 School information should be consistent to enhance comparability of information items among schools.

Standard 2.13 Systems may have additional files appropriate to their needs which enhance system capability.

3. Marketing and User Services

Standard 3.1 A marketing plan should be followed.

Standard 3.2 Promotion of additional user sites should be an ongoing function.

Standard 3.3 Public information should be available in concise, accurate, and effective form.

Standard 3.4 User materials should be well designed, easy to use, appealing to users, and readily available.

Standard 3.5 Training for use of the system should be provided.

Standard 3.6 A system of communication between marketing staff and users should be in effect.

Standard 3.7 The system should be available to all clients/students during their regular day.

Standard 3.8 The delivery system should be available as part of the counseling and instructional processes and also for independent client use.

Standard 3.9 Costs for the delivery system should be at a level per user which will make it feasible for user agencies or local or state governments to financially support use.

Standard 3.10 A coordinator should be identified at each user site.

4. Delivery Systems

Delivery of career information to users includes two broad functions, accessing and dissemination. Accessing is the strategy or approach used by the individual to search out and explore information. Dissemination is concerned with provision and availability of information to a wide variety of users. The following operating standards for accessing and dissemination apply.

Standard 4.1 The system should employ at least two media of delivery.

Standard 4.2 The delivery system should be demonstrably effective with persons of varying ability and experience.

Standard 4.3 The delivery system should present information in an attractive and interesting manner so as to motivate users to continue use of the system and to further explore occupational areas.

Standard 4.4 The delivery system components should be user-operable so that independent usage may be fostered.

Standard 4.5 The system should provide user agencies with printed instructions on how to use the various components. These instructions should be distributed to users and should include directions for operating hardware components and descriptions of the information files available. The instructions should be written at a reading level appropriate to a wide variety of intended users.

Standard 4.6 Materials to which users are referred by the system should be available in an easily accessed information center.

Standard 4.7 The statements made in one medium should be consistent and compatible with those made in other files or media; a reference system should exist from one delivery vehicle to another.

Standard 4.8 Any delivery system hardware components required should be standard equipment that is reliable, widely available, and applicable to a variety of users. Computers in use should be subject to minimum "down-time" and software should be "bug-free" so as not to inconvenience users.

Standard 4.9 The delivery system should provide a copy of a summary of its basic information to the user for future reference.

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Standard 4.10 The delivery system should be able to house all information related to the topic listed for information development, including localized information.

Standard 4.11 The system should have updating capability so that new information can be entered into the system and made available to users within at least six months of the time it becomes available. Some exceptions exist, primarily data items that are published and are accurate on a yearly basis.

Standard 4.12 A user should be able to obtain the information desired which is available through that medium of delivery before leaving the system or within a reasonably short period of time after leaving.

Standard 4.13 The accessing strategies or approaches used to obtain information should be available both in a direct access and a structure search mode depending on the preferences of the user.

Standard 4.14 If an accessing strategy provides for the use of a client's record (e.g., test scores, class ranking, interest inventories, etc.), the client should be aware of any data which are input into the system. Furthermore, the use of client records should not prohibit a client from continuing exploration in any chosen occupational area. Client records, records of individual system use, or any other personal data obtained or used by the system for whatever purpose should be adequately safe-guarded so that security and confidentiality will be maintained.

Standard 4.15 The delivery system should be accessible to adequately serve the user.

Standard 4.16 Costs for the delivery system components should be a per user level which makes it feasible for user agencies or local or state governments to financially support use.

Standard 4.17 The system should have a staff member responsible for supervising the delivery system. The staff member should be available to user agencies for consultation concerning the delivery system.

5. Evaluation

Standard 5.1 An annual evaluation should be in evidence.

Standard 5.2 A plan for utilizing evaluation results should be in evidence.

Standard 5.3 A system research and development effort should be in place with adequate resources allocated to ensure that the delivery system keeps up with technological improvements in the field.

6. System Finance

Standard 6.1 Financial planning should be in evidence.

Standard 6.2 The expense budget should be adequate to provide services expected by the users.

Appendix 5. National Career Development Association

The National Career Development Association (NCDA) promotes career development, career counseling and guidance, and career education programs and practices in schools, business and industry, colleges, and community settings. Formerly known as the National Vocational Guidance Association, NCDA is a division of the American Association for Counseling and Development.

NCDA has developed sets of guidelines for career information products for use by developers and professional counseling personnel. Guidelines have been developed for computer software, literature, and video. The NCDA publications in this area include:

- *Guidelines for the Preparation and Evaluation of Career and Occupational Information Literature, 1991*
- *Career Software Review Guidelines, 1991*
- *Career Video Review Guidelines, 1991*

NOICC worked with NCDA on three projects that resulted in the following NCDA publications:

- *Enhancing the Design and Use of Computer-Assisted Career Guidance Systems: Proceedings of an International Teleconference on Technology and Career Development*, 1990
- *National Survey of Working America*, 1990
- *Working in America: A Status Report on Planning and Problems*, 1989

For information on these and other NCDA publications, write or call:

National Career Development Association
5999 Stevenson Avenue
Alexandria, VA 20034
703/823-9800

Appendix 6. NOICC/SOICC Career Development Initiatives

A major legislative mandate of the NOICC/SOICC Network is to promote the development and use of occupational information for career decision making. To meet this mandate, the National and State Committees support a range of career information and career development programs. Some are designed for counselors and human resource specialists who are helping students and clients with career exploration and planning. Others—like CIDS and career information tabloids—provide career information directly to individuals seeking information or assistance. Descriptions of some of the major efforts follow.

State Career Information Delivery Systems. In 1979, NOICC assumed the federal-level responsibility for promoting the implementation of these systems. Since that time, NOICC has provided funding, through grants to SOICCs, to implement 26 state systems and to enhance all CIDS. In addition to start-up financial support, NOICC has provided funding for special projects, technical assistance, and training in the use of state CIDS. NOICC and the SOICCs also foster the exchange of information and ideas among system developers and users.

Improved Career Decision Making (ICDM). This training program is designed to help counselors and counselor educators develop and improve their knowledge and use of labor market information in career counseling. Workshops are conducted in each state by the SOICC. Since 1981, more than 33,000 counselors in 54 states and territories have participated in ICDM training programs. The revised 1991 ICDM curriculum describes the use of career information and includes approaches to serving special populations, including at-risk youth, persons with disabilities, women, and teen parents.

National Career Development Guidelines. SOICCs in many states are involved in this effort to strengthen and improve comprehensive, competency-based career counseling, guidance, and development programs. More than 30 states are now using the Guidelines as a blueprint for organizing and establishing effective career development programs in schools, colleges, human services agencies, community organizations, and businesses. The Guidelines have been endorsed by major educational and counseling organizations.

Career Development Training by Satellite and Video Technology. Many SOICCs have helped their state take part in NOICC-supported career development workshops by satellite. The interactive workshops reached thousands of elementary and high school counselors, administrators, teachers, parents, and community leaders in 26 states. SOICCs also have access to career development videos and video training packages based on the workshops.

State Training Inventory. This computerized educational database system allows state and local personnel to identify schools and programs by selected geographic area. The system organizes educational and training data by program, type of institution, and geographic area.

Career Planning Portfolio. In a new NOICC-sponsored project, the American School Counselors Association (ASCA) is developing a Career Planning Portfolio, in cooperation with the Maine SOICC. This is a sequential career planning guide for use with students in grades 5-12. It will incorporate the competencies and indicators of the National Career Development Guidelines to monitor student progress and facilitate the transition from school to work.

Employee Career Development Model Project. This counselor training project focuses on helping counselors develop the skills needed to assist adult workers as they make career transitions. The program is designed to train counselors at educational institutions, adult employment and training organizations, and private companies. A cadre of trainers has been established to conduct counselor training workshops, and several SOICCs are conducting an assessment of the need for this training.

SOICC Programs and Directors

State Occupational Information Coordinating Committees support a variety of career development and career information delivery systems and programs. Working with their member agencies and other organizations, they often provide workshops for counselors and publish tabloids, occupational outlook reports, or other publications. Some conduct career fairs or sponsor telephone hotlines.

In addition, each SOICC is responsible for providing occupational information to program planners and managers in vocational education and employment and training agencies. State occupational information systems (OIS) are designed to provide up-to-date and relevant data on occupational supply and demand at the state and local levels. These data can be used in many aspects of human resources program planning.

The SOICC directors listed on the following page may be contacted for information about the status of the NOICC career development initiatives summarized above. They also can provide information on the status of the OIS, counselor training programs, and other career information and development efforts in their state.

SOICC Directors and Telephone Numbers

FAX #	STATE	SOICC DIRECTOR	TELEPHONE#
	Alabama	Mary Louise Simms	(205) 242-2990
	Alaska	Brynn Keith	(907) 465-4518
	American Samoa	Patolo Mageo	(684) 633-4485
(602) 542-6474	Arizona	Stan Butterworth	(602) 542-3680
(501) 682-3713	Arkansas	C. Coy Cozart	(501) 682-3159
	California	Sigurd Brivkalns	(916) 323-6544
	Colorado	James L. Harris	(303) 866-4488
	Connecticut	Prudence Brown Holton	(203) 638-4042
(302) 368-6748	Delaware	James K. McFadden	(302) 368-6963
(202) 639-1765	Dist. Of Columbia	Etta Williams	(202) 639-1090
(904) 488-2558	Florida	Garry L. Breedlove	(904) 488-7397
	Georgia	Clifford L. Granger	(404) 656-9639
	Guam	Jose S. Mantanona	(671) 646-9341
(808) 548-3285	Hawaii	Patrick A. Stanley	(808) 548-3496
(208) 334-2365	Idaho	Charles R. Mollerup	(208) 334-3705
(217) 785-6184	Illinois	Jan Staggs	(217) 785-0789
(317) 232-1815	Indiana	Linda Piper	(317) 232-9528
(515) 242-4859	Iowa	Penelope Shenk (acting)	(515) 242-4890
(913) 296-2119	Kansas	Randall Williams	(913) 296-2387
	Kentucky	Don Sullivan	(502) 564-4258
(504) 342-5115	Louisiana	George Glass	(504) 342-5149
	Maine	Susan Brown	(207) 289-2331
(301) 333-5304	Maryland	Jasmin M. Duckett	(301) 333-5478
(617) 727-8014	Massachusetts	Robert Vinson	(617) 727-6718
(517) 335-5945	Michigan	Robert Sherer	(517) 373-0363
(612) 297-5820	Minnesota	John Cosgrove	(612) 296-2072
(601) 949-2291	Mississippi	Liz Barnett	(601) 949-2002
(314) 751-7973	Missouri	Kay Raithel	(314) 751-3800
(406) 444-2638	Montana	Robert N. Arnold	(406) 444-2741
	Nebraska	Phil Baker	(402) 471-4845
(702) 687-4119	Nevada	Valorie Hopkins	(702) 687-4577
(603) 228-8557	New Hampshire	Victor P. Racicot	(603) 228-3349
(609) 292-6692	New Jersey	Laurence H. Seidel	(609) 292-2682
	New Mexico	Charles Lehman	(505) 841-8455
(518) 457-0620	New York	David Nyhan	(518) 457-6182
	North Carolina	Nancy H. MacCormac	(919) 733-6700
	North Dakota	Dan R. Marrs	(701) 224-2733
	N. Mariana Isl.	Konrad Reyes	(671) 234-7394
(614) 481-8543	Ohio	Mark Schaff	(614) 644-2689
(405) 743-5142	Oklahoma	Curtis Shumaker	(405) 743-5198
(503) 373-7515	Oregon	Virlena Crosley	(503) 378-5490
(717) 772-2168	Pennsylvania	Fritz J. Fichtner, Jr.	(717) 787-8646
(809) 724-6374	Puerto Rico	Jesus Hernandez Rios	(809) 723-7110
	Rhode Island	Mildred Nichols	(401) 272-0830
(803) 737-2642	South Carolina	Carol Kososki	(803) 737-2733
	South Dakota	Phillip George	(605) 622-2314
(615) 741-3203	Tennessee	Chrystal Partridge	(615) 741-6451
	Texas	Richard Froeschle	(512) 463-2399
(801) 533-2466	Utah	Tammy Stewart	(801) 536-7806
	Vermont	Tom Douse	(802) 229-0311
(804) 786-7844	Virginia	Dolores A. Esser	(804) 786-7496
	Virgin Islands	Lee W. Eisenhauer	(809) 776-3700
(206) 438-3215	Washington	A. T. Woodhouse	(206) 438-4803
(304) 766-7846	West Virginia	George McGuire	(304) 293-5314
(608) 267-0330	Wisconsin	Janet Pugh	(608) 266-8012
	Wyoming	Michael E. Paris	(307) 235-3642

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The Authors

Valorie J. Hopkins has been the executive director of the Nevada SOICC since 1987. She also serves on the governor's statewide literacy coalition, for which she provided the initial organizational structure. She is a member of a Nevada state task force whose mission is to broaden information resources on state-approved apprenticeship programming. She is an executive board member of the National Career Information System Operators Council and a board member of ACSCI. Earlier in her career, she worked for several years in corporate management, crisis counseling, community program development, and the media. She has a B.A. in business administration with a minor in psychology from the University of Nevada.

Joyce Kinnison has worked as a self-employed consultant and researcher since 1984, specializing in the areas of career development, computerized CIDS, audiovisual career products, training, and labor market information. She has nine years of teaching and counseling experience at the high school level and nine years of experience in teaching, counseling, and administration at the college level. She was executive director of the North Carolina SOICC for seven years. She has a B.A. magna cum laude from Georgetown College, an M.A. in counseling from Eastern Kentucky University, and a C.A.I. from the School of Business Administration's Executive Institute at the University of North Carolina at Chapel Hill.

Eleanor Morgenthau has 20 years of experience working with state and national programs in the fields of employment and training, vocational education, and vocational rehabilitation. She worked for seven years as the first director of the Florida SOICC. Currently she serves on the ACSCI board and chairs its data committee. She has been a self-employed consultant and researcher since 1985, working in the area of labor market and career information with a particular emphasis on the development of databases for special applications of this information. Most recently she has been a consultant to a U.S. Department of Labor contract to develop recommendations for a new version of the Dictionary of Occupational Titles (DOT). She has a B.A. in psychology from Eckerd College and a master's degree in guidance and counseling from the University of Florida.

Harvey Ollis is an occupational information specialist at NOICC. For the past seven years, he has worked closely with CIDS, military career and training projects, and NOICC's state training inventory. He also serves as NOICC's liaison with vocational education research projects. Earlier in his career, he designed and managed the database of the original Michigan CIDS program in the mid-1970s. He then became the first director of the Michigan SOICC. Before joining NOICC, he worked as a management consultant in Washington, DC. He has master's degrees in economics and labor relations and a Ph.D. in vocational education from Michigan State University.

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NOICC Training Support Center

The NOICC Training Support Center (NTSC) coordinates the National Occupational Information Coordinating Committee's training programs and conferences on a nationwide basis. NTSC provides the NOICC/SOICC Network with ongoing training capabilities, materials, and a pool of experienced trainers and resource persons for its programs and conferences.

The training center is designed to serve four primary functions in connection with major NOICC programs: product development, communication and coordination, network development and support, and training and technical support.

The NTSC operates through the Oklahoma State Occupational Information Coordinating Committee. The center is based at the Oklahoma Department of Vocational and Technical Education in Stillwater. The Oklahoma Vo-Tech agency, Oklahoma State University (OSU) Educational Television Services, and the OSU College of Education's School of Occupational and Adult Education combine resources and staff to operate the training center.

NOICC Training Support Center
Oklahoma Department of Vocational and Technical Education
1500 West Seventh Avenue
Stillwater, OK 74074
(405/743-5197)

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National
Occupational
Information
Coordinating
Committee

2100 M Street, NW, Suite 156
Washington, DC 20037
Telephone: 202/653-5665
FAX: 202/653-2123

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